**FINDER CHART API notes**

3/28/2013

Thomas Lau

**\* Files added to master branch:**

ife/firefly/java/src/edu/caltech/ipac/firefly/server/servlets/ApiService.java:

Main servlet class to process Finder Chart HTTP API request.

ife/firefly/java/src/edu/caltech/ipac/firefly/server/servlets/BaseProductDownload.java

Finder Chart did not prepare the image files in advance, user will receive an IPAC table containing a list of "ProductDownload" servlet URLs to download specific files (FITS, PNG, TBL).

ife/firefly/java/src/edu/caltech/ipac/firefly/server/servlets/BaseVoServices.java:

Note: not being used currently. Need to think in moving VoServices package to Firefly.

ife/firefly/config/voservices/xml/finderchartToSiapMapper.xml

Note: not being used currently. Mapper file for mapping Finder Chart API output fields to VO fields.

**\* Files modified in master branch:**

ife/firefly/java/src/edu/caltech/ipac/hydra/server/download/FinderChartFileGroupsProcessor.java

Modify FileProcessor for handling requests from BaseProductDownload servlet.

ife/firefly/java/src/edu/caltech/ipac/hydra/server/query/QueryFinderChart.java

Modify SearchProcessor for handling requests from ApiService and BaseProductDownload servlets.

ife/firefly/java/src/edu/caltech/ipac/hydra/web.xml

Modify web.xml to include servlet entries and url patterns for ApiService and BaseProductDownload servlets.

**\* So far, Finder Chart can take an URL and produce IPAC table that contains a list of ProductDownload servlet URLs that allow users to download images and/or artifacs.**

**Finder Chart API servlet URL examples, and you can test them to receive an IPAC Table:**

**1. Target= 148.88822, 69.06529; cutout size= 0.5 degree; thumbnail size= medium; surveys= DSS, SDSS, 2MASS, WISE; display all bands of DSS, SDSS, 2MASS, WISE:**

http://shadev1/applications/finderchart/servlet/ApiService?RA=148.88822&DEC=69.06529&SIZE=0.5&thumbnail\_size=medium&sources=DSS,SDSS,twomass,WISE&dss\_bands=poss1\_blue,poss1\_red,poss2ukstu\_blue,poss2ukstu\_red,poss2ukstu\_ir&SDSS\_bands=u,g,r,i,z&twomass\_bands=j,h,k&wise\_bands=1,2,3,4

**2. Target= 148.88822, 69.06529; cutout size= 0.5 degree; thumbnail size= medium; surveys= DSS, SDSS, 2MASS, IRAS, WISE; display all bands of DSS, SDSS, 2MASS, IRAS, WISE:**

http://shadev1/applications/finderchart/servlet/ApiService?RA=148.88822&DEC=69.06529&SIZE=0.5&thumbnail\_size=medium&sources=DSS,SDSS,twomass,IRIS,WISE&dss\_bands=poss1\_blue,poss1\_red,poss2ukstu\_blue,poss2ukstu\_red,poss2ukstu\_ir&SDSS\_bands=u,g,r,i,z&twomass\_bands=j,h,k&iras\_bands=12,25,60,100&wise\_bands=1,2,3,4

**\*\*\* INPUT PARAMETERS OF FINDER CHART HTTP API \*\*\***

**\* Parameters of Finder Chart API**

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Required?** | **Description** |
| RA | required | RA value in degree |
| DEC | required | Dec value in degree |
| SIZE | required | Image cut out radius in degree; max value is 1 degree |
| thumbnail\_size | required | PNG FILE dimension:  small=128pixels x 128pixels, medium=160pixels x 160pixels, large=192pixels x 192pixels |
| sources | required | at least one source; separated by comma. 5 sources available: DSS,SDSS,twomass,IRIS,WISE |
| dss\_bands | required if souces contains DSS | At least one DSS band; separated by comma. 5 bands available: poss1\_blue,poss1\_red,poss2ukstu\_blue,poss2ukstu\_red,poss2ukstu\_ir |
| SDSS\_bands | required if souces contains SDSS | At least one SDSS band; separated by comma. 5 bands available: u,g,r,i,z |
| twomass\_bands | required if souces contains twomass | At least one 2MASS band; separated by comma. 3 bands available: j,h,k |
| iras\_bands | required if souces contains IRIS | At least one IRAS band; separated by comma. 4 bands available: 12,25,60,100 |
| wise\_bands | required if souces contains WISE | At least one WISE band; separated by comma. 4 bands available: 1,2,3,4 |

**\*\*\* OUTPUT COLUMNS OF FINDER CHART HTTP API IPAC TABLE \*\*\***

**\* The result IPAC TABLE contains the following columns:**

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| ra | double | RA value in degree |
| dec | double | Dec value in degree |
| externalname | String | External name of the image (Dev notes: it can be used in composing VO Table) |
| wavelength | String | Wavelength and band description (Dev notes: it can be used in composing VO Table) |
| naxis1 | int | naxis1 of the FITS file (Dev notes: required by VO Table; but not implemented in current stage of Finder chart API) |
| naxis2 | int | naxis2 of the FITS file (Dev notes: required by VO Table; but not implemented in current stage of Finder chart API) |
| accessUrl | String | Returns a FITS file using parameters requested in HTTP program interface. (Dev notes: it can be used in composing VO Table) |
| accessWithAnc1Url | String | Returns a FITS file and ancliary file(s) using parameters requested in HTTP program interface. (Dev notes: it can be used in composing VO Table) |
| fitsurl | String | Returns a FITS file using parameters requested in HTTP program interface. (Dev notes: an output field of xml output file of Finder Chart HTTP Program Interface) |
| jpgurl | String | JPG URL. However, it returns a PNG (not JPG) file using parameters requested in HTTP program interface. (Dev notes: an output field of xml output file of Finder Chart HTTP Program Interface) |
| shrunkjpgurl | String | Shrunk JPG url. However, it returns a PNG (not JPG) file using parameters requested in HTTP program interface. (Dev notes: an output field of xml output file of Finder Chart HTTP Program Interface) |